

Asymptomatic solitary nodule over the left flank

A 30-year-old man presented with a solitary mass on the left flank, for the last three and a half years. Initially it was a pea-sized lesion, which gradually increased in size. Cutaneous examination revealed a solitary 2×2 cm solid non tender, non pruritic, rough surfaced hyperpigmented nodule on the left flank [Figure 1]. It was not fixed to the underlying tissue. There was no regional lymphadenopathy and no other mucocutaneous findings. Systemic examination was noncontributory. The nodule was excised and sent for histopathological examination. Biopsy showed a well-circumscribed diffuse dense and nodular proliferation of large cells with abundant pink staining cytoplasm

with a small vesicular central nucleus. The cytoplasm was packed with pink staining granules of different sizes (0.5–2 microns). The neoplastic cells were packed closely in nodules and fascicles with compressed collagen in between them [Figures 2 and 3]. Overlying epidermis showed pseudocarcinomatous hyperplasia and the granules stained positive with periodic acid-Schiff [Figure 4]. Immunohistochemistry could not be performed due to logistic reasons.

Question

What is your diagnosis?



Figure 1: Hyperpigmented nodule on the left flank

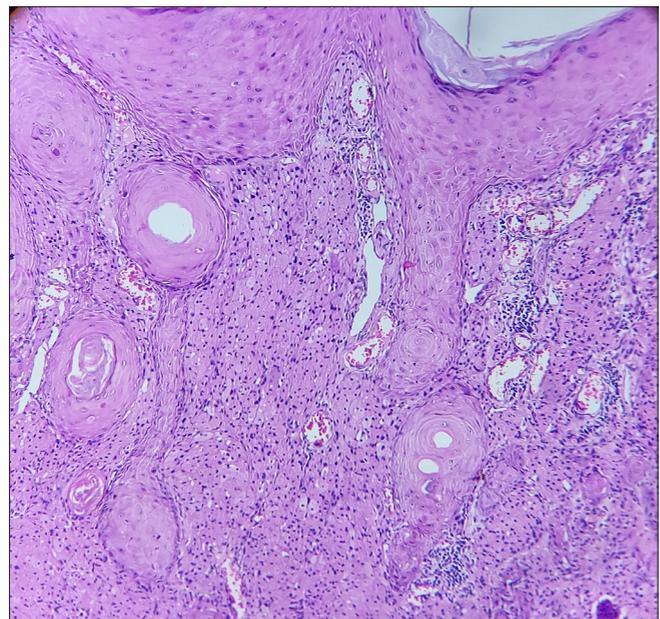


Figure 2: Well-circumscribed diffuse dense and nodular proliferation of large cells (H and E, × 100)

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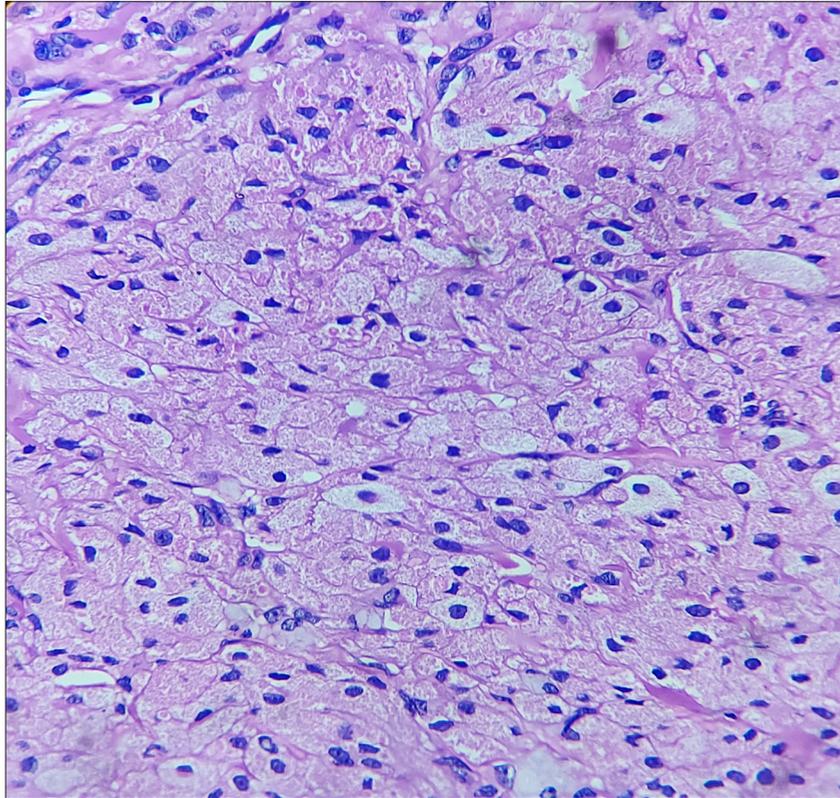


Figure 3: Densely packed cells with abundant pink staining cytoplasm with a small vesicular central nucleus

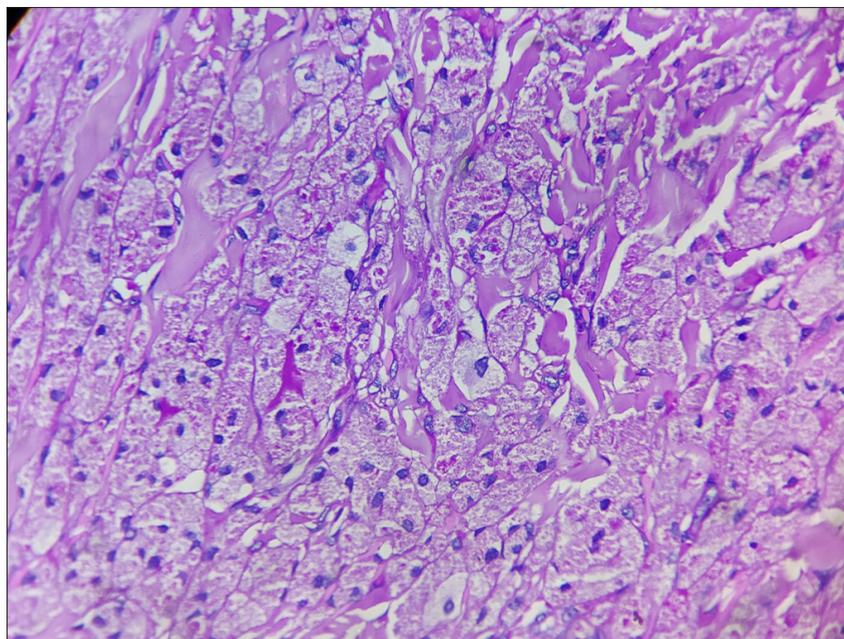


Figure 4: Distinctly stained granules (PAS, $\times 400$)

Answer

Granular cell tumour.

Discussion

A granular cell tumour is an uncommon benign neoplasm, originating from Schwann cells. The commonest site of involvement is the tongue, dermis and subcutaneous tissues. However, atypical sites of involvement have been reported like larynx, bronchus, uvea, oesophagus, stomach etc. There is no age predilection, and cases are more commonly seen in women. The lesions are usually solitary and painless, and in less than 25% of cases, multiple lesions have been noted. Rarely the tumour may be painful.¹

Histopathology typically shows sheets of polygonal cells infiltrating into the dermis. The cells are typified by the presence of centrally placed small round to oval vesiculated nuclei with abundant granular eosinophilic cytoplasm. On immunohistochemistry, cells stain with vimentin, neuron-specific enolase, S-100, myelin protein, calretinin, nerve growth factor receptor five, microphthalmia-associated transcription factor, inhibin-alpha and protein gene product 9.5.² LeBoit *et al.* and subsequently by others described rare subtypes: polypoid granular cell tumour and primitive non neural granular cell tumour which were S-100 negative.³ The granular appearance of the neoplastic cells is attributed to the presence of large lysosomes, which are positive for periodic acid-Schiff and diastase-resistant. Histological differentials include dermatofibroma, rhabdomyoma, Reed neuroid spindle cell tumour, xanthoma and metastatic breast carcinoma (all of them show granular cytoplasm on histology). Rarely, tumour cells in granular cell tumour may involve the overlying epidermis and distinction from melanoma may be difficult. HMB45 stain may help in differentiating the two conditions, which is usually negative in granular cell tumour.

Malignancy is uncommon (1–2%) and clinically it manifests with a rapid increase in size and locoregional lymph node enlargement. Spindling of neoplastic cells on histology is thought to be a marker of malignant transformation. Other features which suggest malignancy include an increased number of mitotic figures (>2 mitoses per 10 high-power fields), necrosis, pleomorphic nuclei,

increased nucleocytoplasmic ratio and vesicular nuclei with prominent nucleoli.⁴ Presence of two of these criteria makes the tumour “atypical”, and granular cell tumours with three or more of these criteria are classified as malignant.⁵

The therapy of choice is complete excision with free surgical margins. Patients should be followed up periodically to look for recurrences.⁶

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

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Conflicts of interest

There are no conflicts of interest.

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